

PNEUMATIC SURFACE EFFECT DAMPER

ABSTRACT

5 A pneumatic endstop surface effect damper including an air piston housing
with an air piston movable in an up stroke first direction and an opposite down stroke
second direction inside the air piston housing and along the air piston inner housing
wall with the air piston dividing the inner chamber into a first upper variable volume
chamber and a second lower variable volume chamber. The air piston includes a
10 lubricated viscous elastomer surface effect damper which engages the inner wall and
provides a surface effect damping of the piston moving along the inner wall with the
air piston including a movable valve system actuated by a change in the stroke
direction of the air piston with the movable valve system releasing an air pressure
from the upper variable volume chamber when the piston changes from the up stroke
15 first direction to the opposite down stroke direction and releases an air pressure from
the lower variable volume chamber when the piston changes from the down stroke
direction to the up stroke direction, and provides velocity dependent forces.